<u>RAW SEQUENCE LISTING</u>

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/518,432_
Source: _PU7/10_
Date Processed by STIC: _10/13/05_

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PCT

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        RAW SEQUENCE LISTING                    DATE: 10/13/2005
        PATENT APPLICATION:  US/10/518,432      TIME: 14:45:07

        Input Set : A:\Sequence Lisitng-ST25.txt
        Output Set: N:\CRF4\10132005\J518432.raw

  3 <110> APPLICANT: Massey University
  4         Institute Pasteur
  5         Murray, Alan
  6         Dupont, Christine
  8 <120> TITLE OF INVENTION: Immunogenic poly peptide isolated from Mycobacterium avium
  9         subspecies paratuberculosis and uses thereof
 11 <130> FILE REFERENCE: P70329US0
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/518,432
C--> 13 <141> CURRENT FILING DATE: 2004-12-20
 13 <150> PRIOR APPLICATION NUMBER: NZ 519667
 14 <151> PRIOR FILING DATE: 2002-06-19
 16 <160> NUMBER OF SEQ ID NOS: 9
 18 <170> SOFTWARE: PatentIn version 3.2
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 235
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Mycobacterium avium subspecies paratuberculosis
 25 <400> SEQUENCE: 1
 27 Met Gln Thr Arg Arg Arg Leu Ser Ala Val Phe Ala Ser Leu Thr Leu
 28 1               5                   10                  15
 31 Ala Thr Ala Leu Ile Ala Gly Cys Ser Ser Gly Ser Lys Gln Ser Gly
 32               20                  25                  30
 35 Ala Pro Leu Pro Asp Pro Thr Ser Leu Val Lys Gln Ser Ala Asp Ala
 36           35                  40                  45
 39 Thr Lys Asn Val Lys Ser Val His Leu Val Leu Ser Ile Gln Gly Lys
 40       50                  55                  60
 43 Ile Ser Gly Leu Pro Ile Lys Thr Leu Thr Gly Asp Leu Thr Thr Thr
 44 65                  70                  75                  80
 47 Pro Ala Thr Ala Ala Lys Gly Asn Ala Thr Ile Thr Leu Gly Gly Ser
 48               85                  90                  95
 51 Asp Ile Asp Ala Asn Phe Val Val Val Asp Gly Thr Leu Tyr Ala Thr
 52               100                 105                 110
 55 Leu Thr Pro Asn Lys Trp Ser Asp Phe Gly Lys Ala Ser Asp Ile Tyr
 56           115                 120                 125
 59 Asp Val Ser Val Leu Leu Asn Pro Asp Asn Gly Leu Gly Asn Ala Leu
 60       130                 135                 140
 63 Ala Asn Phe Ser Asn Ala Lys Ala Glu Gly Arg Glu Thr Ile Asn Gly
 64 145                 150                 155                 160
 67 Gln Ser Thr Ile Arg Ile Ser Gly Asn Val Ser Ala Asp Ala Val Asn
 68               165                 170                 175
 71 Lys Ile Met Pro Gln Phe Asn Ala Thr Gln Pro Val Pro Ser Thr Val
 72               180                 185                 190
 75 Trp Val Gln Glu Thr Gly Asp His Gln Leu Val Gln Ala Asn Leu Gln
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76          195                200                205
79 Lys Ser Ser Gly Asn Ser Val Gln Val Thr Leu Ser Asn Trp Gly Glu
80      210                215                220
83 Gln Val Gln Val Thr Lys Pro Pro Val Ser Ser
84 225                230      .          235
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88 <211> LENGTH: 708
89 <212> TYPE: DNA
90 <213> ORGANISM: Mycobacterium avium subspecies paratuberculosis
92 <400> SEQUENCE: 2
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95 atcgccggct gctcgtcggg ctccaagcag agcggtgcgc cgctgcccga ccccaccagc  120
97 ctggtcaagc agtcggccga cgcgaccaag aacgtcaaga gcgtgcacct ggtgctcagc  180
99 atccagggca agatctccgg gctgcccatc aagacgctga ccggtgacct caccaccacg  240
101 ccggccaccg ccgcgaaggg caacgccacg atcaccctgg gcggctcgga catcgacgcc  300
103 aacttcgtcg tcgtcgacgg caccctgtac gccaccctca ccccgaacaa gtggagcgac  360
105 ttcggcaagg cgtccgacat ctacgacgtg tcggtgctgc tcaaccccga caacgggctg  420
107 ggcaacgcgc tggcgaactt cagcaacgcc aaggccgagg ccgcgaaac catcaacggt  480
109 cagagcacga tccggatcag cgggaacgtc tcggcggacg cggtgaacaa gatcatgccg  540
111 cagttcaacg ccacccagcc ggtgccgagc accgtgtggg tccaggagac cggcgaccac  600
113 cagctggttc aggccaacct gcagaagagc tccgggaatt ccgtgcaggt gacgctgtcg  660
115 aattggggcg agcaggtcca ggtcaccaag cccccggtga gctcgtga          708
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120 <212> TYPE: DNA
121 <213> ORGANISM: Artificial Sequence
123 <220> FEATURE:
124 <223> OTHER INFORMATION: Synthesized
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127 gatgggatcc atgcagaccc gccgccgcct                                    30
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131 <211> LENGTH: 30
132 <212> TYPE: DNA
133 <213> ORGANISM: Artificial Sequence
135 <220> FEATURE:
136 <223> OTHER INFORMATION: Synthesized
138 <400> SEQUENCE: 4
139 tgagggtacc cgagctcacc gggggcttgg                                    30
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143 <211> LENGTH: 18
144 <212> TYPE: DNA
145 <213> ORGANISM: Artificial Sequence
147 <220> FEATURE:
148 <223> OTHER INFORMATION: Synthesized
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156 <212> TYPE: DNA
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159 <220> FEATURE:
160 <223> OTHER INFORMATION: Synthesized
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166 <210> SEQ ID NO: 7
167 <211> LENGTH: 6
168 <212> TYPE: PRT
169 <213> ORGANISM: Mycobacterium avium subspecies paratuberculosis
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174 1               5
177 <210> SEQ ID NO: 8
178 <211> LENGTH: 38
179 <212> TYPE: DNA
180 <213> ORGANISM: Artificial Sequence
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183 <223> OTHER INFORMATION: Synthesized
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191 <212> TYPE: DNA
192 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: Synthesized
197 <400> SEQUENCE: 9
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VERIFICATION SUMMARY   DATE: 10/13/2005
PATENT APPLICATION: US/10/518,432   TIME: 14:45:08

Input Set : **A:\Sequence Lisitng-ST25.txt**
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L:13 M:270 C: Current Application Number differs, Replaced Current Application No
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date